

REMARKS

Claims 1-20 are pending. By this Amendment, claims 1, 2, 5, 6, 9 and 10 are amended, and claims 11-20 are added. The specification also is amended to correct an obvious typographical error.

The independent claims are amended for clarity by changing "an existence of an effect of improving" to "whether it is possible to improve" and by changing "there is the effect of improving" to "it is possible to improve". This amendment is supported in the specification at, for example, original paragraphs [0035] and [0036]. In addition, independent claims 1 and 9 are further amended to eliminate unnecessary features, and to even more clearly distinguish over the applied references by reciting that exhaust gas is introduced into the combustion chamber. The features removed from claims 1 and 9 are now recited in new dependent claims 11 and 12. Independent claims 5 and 10 are further amended to change "serves to admit" to "admits" for clarity, and to recite that the exhaust gas is admitted "after an intake stroke" to even more clearly distinguish over the applied reference. In addition, claims 19 and 20, which respectively depend from claims 5 and 10, recite that the exhaust gas is admitted "without diffusing the stratified exhaust gas throughout the combustion chamber." This amendment is supported in the original specification at, for example, paragraph [0040]. Dependent claims 2 and 6 have been amended to be consistent with the amended independent claims, and newly-added dependent method claims 13-18 are based upon dependent claims 2-4 and 6-8. Accordingly, no new matter is added by the above amendments.

Claims 5 and 10 stand rejected under 35 U.S.C. §102(e) over U.S. Patent No. 6,321,715 to Dong. This rejection is respectfully traversed.

Dong discloses introducing exhaust gas into the combustion chamber during the intake stroke, simultaneous with the introduction of air or an air/fuel mixture through the intake valve. See, for example, col. 4, lines 13-21, col. 4, lines 47-56, col. 8, lines 40-42 and col. 9,

lines 56-61 of Dong. Thus, Dong does not disclose or suggest introducing an exhaust gas into the combustion chamber after an intake stroke as is now recited in independent claims 5 and 10. The whole theory of Dong's process is based upon introducing the exhaust gas during the intake stroke. See, for example, col. 12, lines 38-44. Accordingly, Dong does not disclose or suggest the combination of features recited in independent claims 5 and 10. Withdrawal of the rejection is requested.

Claims 1-4 and 6-9 stand rejected under 35 U.S.C. §103(a) over Dong in view of U.S. Patent No. 6,736,106 to Reitz et al. This rejection is respectfully traversed.

First, as explained above, because Dong requires the exhaust gas to be introduced into the combustion chamber during the intake stroke, there is no reason to modify Dong to introduce exhaust gas after the intake stroke (and in fact, Dong teaches away from such a modification) as recited in claims 1 and 9. Moreover, Reitz et al. performs its procedure in order to enhance mixing in the combustion chamber. See, for example, col. 5, lines 1-9 of Reitz et al. This goes against the teachings of Dong, which is to maintain the exhaust gas in a stratified state within the combustion chamber. Thus, there is no motivation to modify Dong with Reitz et al. as proposed in the Office Action.

Second, contrary to what is asserted in the Office Action, Reitz et al. does not disclose or suggest admitting exhaust gas into a combustion chamber after an intake stroke. Rather, Reitz et al. discloses briefly opening the intake valve or the exhaust valve during the compression stroke and/or the power stroke (i.e., after the intake stroke) to cause gases within the combustion chamber to be released from (not admitted into) the combustion chamber. See, for example, col. 5, lines 2-6, col. 5, lines 16-18, col. 5, lines 32-34 and col. 5, lines 39-45 of Reitz et al. Accordingly, the combination of Dong and Reitz et al. does not disclose or suggest introducing exhaust gas into the combustion chamber after the intake stroke as recited in all pending claims of this application.

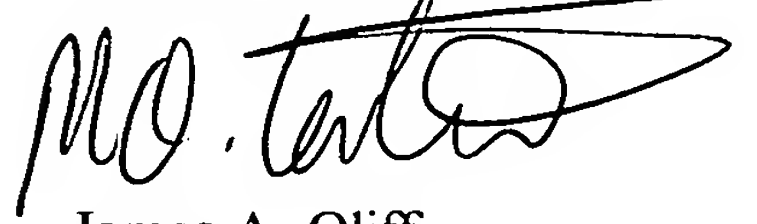
While the Office Action referred to col. 6, lines 44-58 of Reitz et al. regarding the introduction of gases into the combustion chamber, a close reading of this portion of Reitz et al. clearly teaches that exhaust gas is never introduced into the combustion chamber. In particular, at col. 6, lines 44-52, Reitz et al. states that gases removed from the combustion chamber are only readmitted during the next intake stroke when those gases have been removed via the intake valve. At col. 6, lines 52-58, Reitz et al. teaches that if the gases were removed through the exhaust valve, then such gases are not readmitted into the combustion chamber. Thus, Reitz et al. does not disclose or suggest admitting exhaust gas into a combustion chamber through an exhaust valve as recited in claims 1 and 9.

Withdrawal of the rejection based upon Dong and Reitz et al. is requested.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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